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MRT news

newsletter of the MRT project

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BREAKTHROUGH

History was created when the world's first Variable Density Tunnel Boring Machine broke through at site of the future Pasar Rakyat Station on 9 January 2014. Read more about it on page 2.

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MRT PROJECT STARTS NEW YEAR WITH THREE BREAKTHROUGHS

By Leong Shen-li



AWAITING NEXT JOB • The Semantan 1 Tunnel Boring Machine which had just broken through at KL Sentral, awaits refurbishment before being relaunched to excavate the tunnel to Pasar Seni MRT Station.



JOB DONE • Cochrane 2 tunnel boring machine being dismantled after completing the tunnel excavation.



WELL DONE • Personnel from the MRT Project Underground Works Package Contractor MMC Gamuda KVMRT (T) Sdn Bhd posing in front of the tunnel boring machine after its breakthrough.



GREAT INTEREST • Media photographers waiting to capture the moment of breakthrough.



ANTICIPATION • Personnel from MRT Corp, MMC Gamuda and various subcontractors waiting for the breakthrough.

THE year end and New Year is usually the season for celebration. For those with the MRT Project, there was a lot of cause for celebration between December 2013 and January 2014 as the two months were marked by several significant achievements for the project.

On Christmas Eve of 2013, the MRT Sungai Buloh-Kajang Line saw its first tunnel boring machine (TBM) breakthrough at KL Sentral. This was followed closely by the breakthrough of the world's first Variable Density Tunnel Boring Machine at the Pasar Rakyat Station site 16 days later on 9 Jan 2014.

And on 16 January 2014, a third TBM broke through at KL Sentral, completing the first pair of tunnels between the Semantan Portal – the northern end of the MRT tunnel – and KL Sentral MRT Station.

A breakthrough is a term used to describe the event when a TBM emerges from underground by breaking through the wall of a shaft which was excavated to retrieve the machine. In an MRT project, these shafts usually double up as station boxes where the MRT underground stations are built.

A breakthrough basically marks the completion of a section of tunnel after the TBM has excavated and constructed the tunnel from its starting or launching point.

The first breakthrough for the MRT Sungai Buloh-Kajang Line on Christmas Eve was by the Semantan 1 TBM. This machine began excavating the tunnel, which will be used by north-bound trains, from the Semantan Portal on 13 June 2013.

This Earth Pressure Balance TBM, used to excavate through the Kenny Hill geological formation of the western part of Kuala Lumpur, took just over six months to excavate and construct the 1.4km section of tunnel between the portal and the future KL Sentral Station.

The TBM will undergo refurbishment at the KL Sentral Station box, and then relaunched towards the end of March 2014 to excavate the tunnel to Pasar Seni MRT Station which lies another 1.1km away.

The first breakthrough was greeted with joy. However, the second breakthrough which took place at the Pasar Rakyat Station worksite by Cochrane 2 TBM drew a lot more attention and cheer.

This was because the breakthrough marked the successful completion of tunnelling by the world's first Variable Density TBM. The machine began excavating and constructing the tunnel from the Cochrane Launch Shaft on 22 July 2013 and broke through the wall of the Pasar Rakyat Station box on 9 Jan 2014 after tunnelling a distance of about 1km.

The Variable Density TBM was designed jointly by the MRT Project underground works contractor MMC Gamuda KVMRT (T) Sdn Bhd and world-renowned TBM manufacturer Herrenknecht AG of Germany specially to handle the challenges of tunnelling in Kuala Lumpur.

These TBMS are deployed for tunnelling through the Kuala Lumpur Limestone Geological Formation which is considered to be extremely challenging.

Besides being able to handle excavation through the transformation zone between the Kenny Hill Formation and the Kuala Lumpur Limestone Formation near the Pavilion Shopping Centre in Bukit Bintang, the Variable Density TBM is designed to minimise the occurrence of blow-outs and sinkholes.

Mr Marcus Karakashian, Project Director of Mass Rapid Transit Corporation Sdn Bhd, the owner of the MRT Project, was happy with the performance of the Variable Density TBM.

“The TBM did its job very well as there were no major issues with blow-outs and sinkholes. This is a far cry from what our contractors experienced when they did the SMART tunnel where they experienced hundreds of such incidents. Don't forget that the section between Cochrane and Pasar Rakyat is virtually the same area as the SMART tunnel where many of the sinkholes and blowouts occurred,” he said.

The machine has now completed its task and has been dismantled.

The third breakthrough on 16 January 2014 involved Semantan 2 TBM, the “partner” of Semantan 1 TBM. This machine excavated a second parallel tunnel from the Semantan Portal – where it started excavation work on 12 July 2013 - to KL Sentral MRT station, a distance of 1.5km.

As with Semantan 1, this machine will undergo refurbishment at the KL Sentral site and then relaunched to excavate the tunnel from KL Sentral to Pasar Seni MRT Station.

These three breakthroughs are just the start of things to come.

Four TBMs are currently excavating tunnels between the Inai Launch Shaft and Bukit Bintang, and between the Cochrane Launch Shaft and Maluri Portal. Two more TBMs are in storage and expected to be launched in April and August this year at the Pudu Launch Shaft.

The final breakthrough that will complete all tunnelling works for the MRT Sungai Buloh-Kajang Line is expected to occur at Pasar Seni MRT Station site in February next year.

KL SENTRAL BREAKTHROUGH TIME LAPSE



PASAR RAKYAT BREAKTHROUGH TIME LAPSE





AN EXCITING START TO THE NEW YEAR

from the desk of the CEO
**DATUK WIRA AZHAR
ABDUL HAMID**

IT has been a very exciting start to 2014 for all of us involved in the MRT Project.

As we were just about to finish wishing everyone Happy New Year, we at MRT Corp and especially those with our underground works contractor MMC Gamuda KVMRT (T) Sdn Bhd had another major event to celebrate – the successful completion of tunnelling work by the world’s first Variable Density Tunnel Boring Machine (TBM).

The Cochrane 2 TBM was launched from the Cochrane Launch Shaft on 22 July 2013 and completed its job excavating the tunnel to Pasar Rakyat on 9 January 2014, taking just under six months to excavate the distance of 1km.

The TBM had a truly dramatic way of announcing the successful completion of the task given to it. As it excavated through the last few metres of rock, the TBM broke through the wall of the Pasar Rakyat Station box, suddenly emerging from underground through crashing boulders and rocks. The hundreds of people from MRT Corp, MMC Gamuda and their subcontractors as well as the media cheered as the rock surface cracked and broke away, revealing the rotating cutterhead of the machine.

The breakthrough of Cochrane 2 is significant as it was proof that the Variable Density TBM - specially designed jointly by MMC Gamuda and world renowned TBM manufacturer Herrenknecht AG - could do its job it was designed to take on

successfully, namely to overcome the challenges of tunnelling through Kuala Lumpur’s limestone geological formation.

During the six months of tunnel excavation, there were no major issues with sinkholes and blow-outs. These are common occurrences when tunnelling through limestone. I am very happy that MMC Gamuda was able to learn from their SMART tunnel experience and successfully avoided the problems while doing tunnel excavation for the MRT Project.

Cochrane 2’s breakthrough was actually preceded by an earlier breakthrough at KL Sentral Station on 24 December 2013, and quickly followed by yet another breakthrough, also at KL Sentral, on 16 January 2014.

These two breakthroughs were by TBMs launched from the Semantan Portal. The two Earth Pressure Balance TBMs – Semantan 1 and Semantan 2 – are being refurbished at KL Sentral and will be relaunched to excavate the parallel tunnels to Pasar Seni MRT Station.

With these breakthroughs, two sections of tunnels, which make up 2.5km of the entire 9.5km underground alignment, have now been completed. They are between the Semantan Portal, the northern end of the tunnel, and KL Sentral MRT Station, and between Cochrane and Pasar Rakyat Stations.

More breakthroughs are in store as our remaining TBMs finish their sections of tunnels. We expect to complete all tunnelling works by the first quarter of 2015.

We have also been doing very well at our elevated stretches. The first continuous kilometer of guideway for the MRT elevated alignment was completed at the end of January in land formerly belonging to the Rubber Research Institute of Malaysia in Sungai Buloh. Guideway construction is now progressing at a feverish pace in all elevated work packages.

Track laying work has begun in our Sungai Buloh Depot. You may wonder why we have built such a vast depot just to house 58 train sets. The reason is that the depot is designed to not only cater for the trains servicing the MRT Sungai Buloh-Kajang Line but also the future Line 2, which is planned to run from Sungai Buloh to Serdang and Putrajaya.

With all these construction activities progressing well, I am very confident that the citizens of the Klang Valley will get to ride the MRT, albeit the first phase between Sungai Buloh and Semantan, by 31 December 2016.

Thank you.

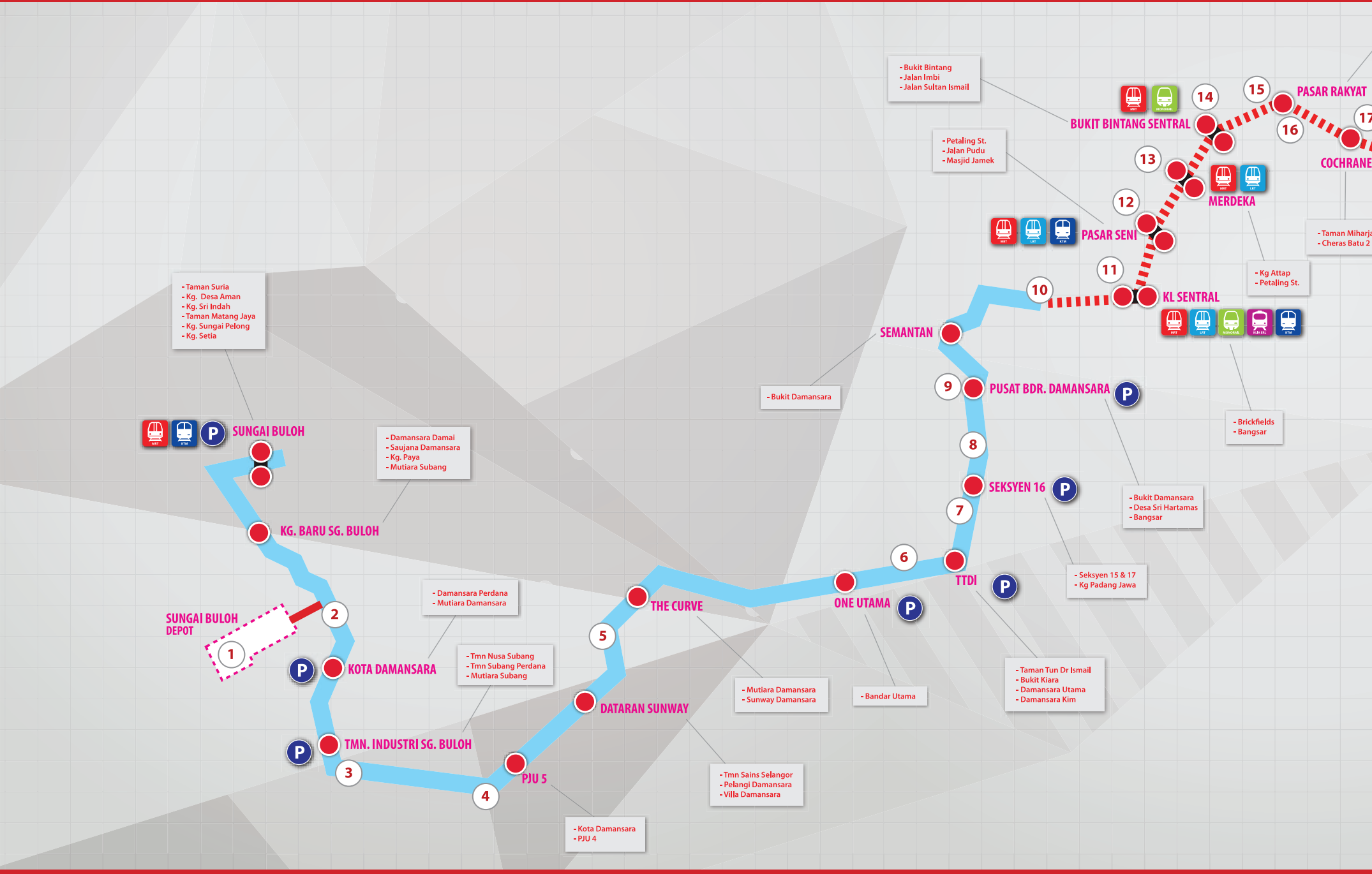
Azhar

WHERE IS THE TUNNEL BORING MACHINE?

Status of tunneling (as at 28 February 2014)

1. Semantan 1 TBM - Completed north-bound tunnel between Semantan Portal and KL Sentral (1.5km). Awaiting relaunch to tunnel to Pasar Seni.	3. Cochrane 1/Inai 1- Completed north-bound tunnel between Cochrane and Pasar Rakyat (1km). Now tunneling from Pasar Rakyat towards Bukit Bintang (300m excavated)	5. Inai 2 - Tunneling from Inai Launch Shaft towards Bukit Bintang. (134m excavated)
2. Semantan 2 TBM - Completed south-bound tunnel between Semantan Portal and KL Sentral (1.5km). Awaiting relaunch to tunnel to Pasar Seni.	4. Cochrane 2- Completed south-bound tunnel between Cochrane and Pasar Rakyat (1km). TBM decommissioned.	6. Maluri 1 - Tunnelling from Cochrane towards Maluri Portal. (1km excavated)
		7. Maluri 2 - Tunnelling from Cochrane towards Maluri Portal. (917m excavated)

PROJECT UPDATES



1 VAST SITE
Sub-ballast work in front of the covered train stabling area inside the Sungai Buloh Depot. The Rolling Stock Building is located to the left of the stabling yard.



2 STEADY PACE
A launch gantry constructing the MRT elevated guideway near the entrance to the Sungai Buloh Depot.



3 GOOD PROGRESS
View of the launch gantry completing the span of the first continuous kilometer of elevated guideway of the MRT Sungai Buloh-Kajang Line inside the Rubber Research Institute of Malaysia land.



4 IN BALANCE
Construction of the special span along Persiaran Surian near Persiaran Kenanga using the balanced cantilever method in progress.



5 TIGHT WORKING SPACE
MRT pier construction taking place along the narrow median of Persiaran Surian at Pelangi Damansara.



11 REFURBISHMENT IN PROGRESS
The Semantan 1 Tunnel Boring Machine which excavated the north-bound tunnel from the Semantan Portal being refurbished inside the future KL Sentral MRT Station.



12 WORK IN PROGRESS
View of the reinforced concrete wall between the concourse slab and the roof slab of the Pasar Seni MRT Station box being constructed.



13 DEEP EXCAVATION
Struts holding apart the diaphragm walls of the Merdeka Station box.



14 BUSY WORKSITE
Aerial view of the new work area of the future Bukit Bintang MRT Station. For the past year, the worksite was where the road is today.



15 PUSHING AHEAD
View of the rear of the back-up cars of the Inai 2 Tunnel Boring Machine excavating towards the Bukit Bintang MRT Station site.



21 FURIOUS PACE
MRT station construction work in progress in front of the shops in Taman Midah.



22 STEADILY FORWARD
A launch gantry constructing the MRT guideway along Jalan Cheras towards the MRT station.



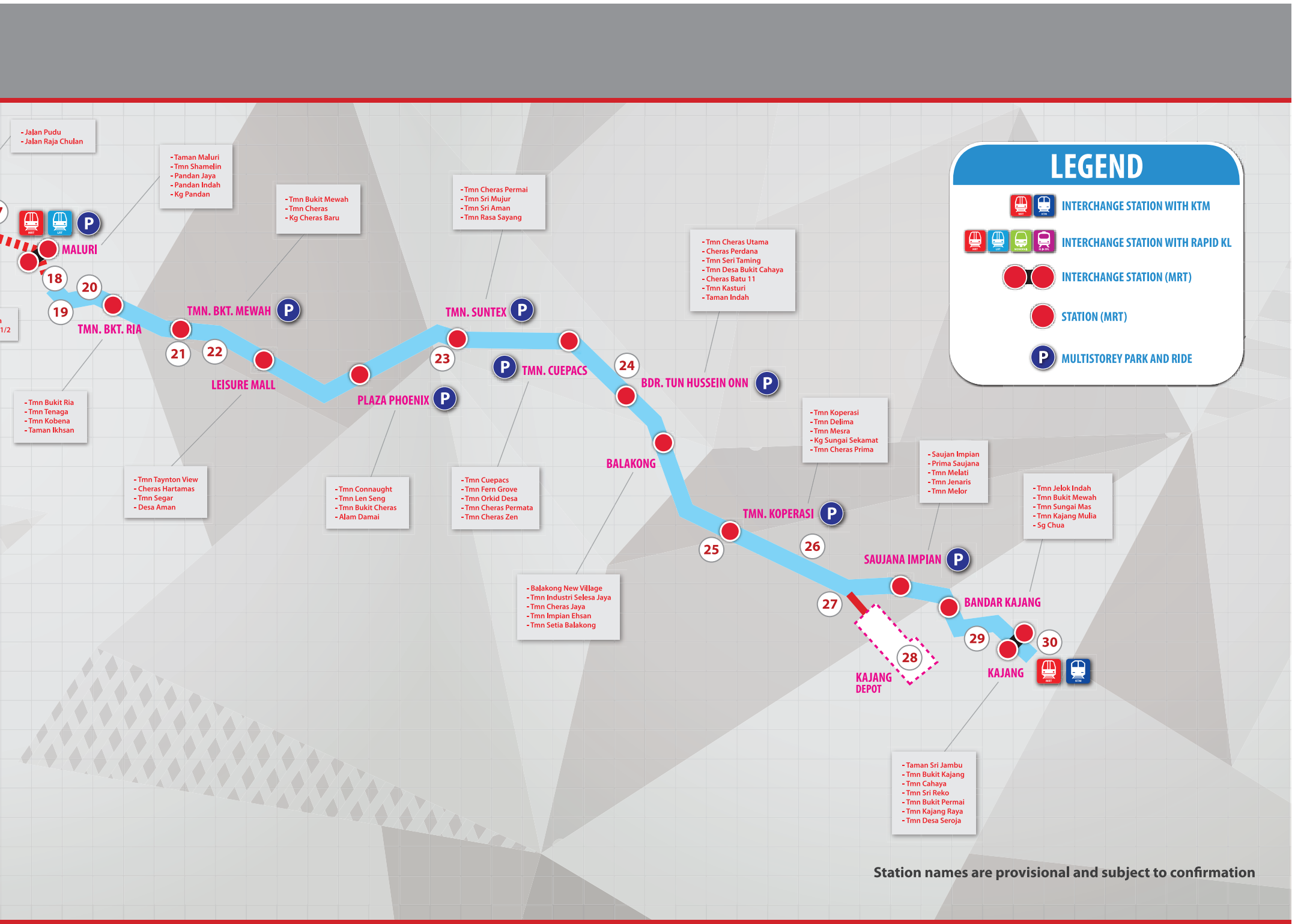
23 GOOD PROGRESS
Construction work taking place for the future Taman Suntek MRT Station.



24 MOVING ONWARD
A launch gantry constructing the MRT guideway along the Cheras-Kajang Highway near Bandar Tun Hussein Onn.



25 MASSIVE
Construction for the future Taman Koperasi MRT station in progress.



6

VIADUCT WORKS

MRT elevated guideway being constructed above the median of Jalan Damansara at Taman Tun Dr Ismail, Kuala Lumpur.



7

FUTURE STATION

View of construction work taking place where the future Seksyen 16 MRT Station is located opposite Phileo Damansara.



8

READY FOR LIFTING

Segmented box girders placed in position between piers waiting to be erected to form the MRT elevated guideway.



9

STURDY STRUCTURES

Steel trusses being used to construct cross beams above the Maarof Interchange for the future Pusat Bandar Damansara MRT Station.



10

COMPLETED

View of the completed tunnel between Semantan Portal and KL Sentral MRT Station.



16

HARD ROCK

View of the northern end of the Pasar Rakyat MRT Station box which is excavated from hard limestone rock.



17

STATION TAKING SHAPE

View of the Cochrane MRT Station box, was earlier used as the launch shaft for four tunnel boring machines, where the station structure is being constructed.



18

HARD AT WORK

View of machinery at the Maluri MRT Station worksite.



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TRANSFORMATION POINT

MRT station construction work in progress in front of the shops in Taman Midah.



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VIADUCT SPANS

A stretch of the completed MRT guideway running parallel to Jalan Lake Yew in Cheras.



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IMPRESSIVE MACHINE

A launch gantry erecting the MRT guideway at the Sungai Balak Interchange of the Cheras-Kajang Highway.



27

HOME AWAY FROM HOME

Aerial view of the Kajang Centralised Labour Quarters near the Saujana Impian Interchange of the Cheras-Kajang Highway.



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VAST SITE

Aerial view of the Kajang Depot.



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FUTURE CONVENIENCE

View of the worksite of the future Kajang MRT Station Multistorey Park and Ride facility (middle) with the temporary car park (left).



30

COMING UP

MRT piers being constructed near the Kajang KTM Station.

INDONESIA VISITS KUALA LUMPUR’S MRT PROJECT

By Nadia Azmi



■ **LISTENING INTENTLY** • The delegation from MRT Jakarta listening to MRT Corp Director of Elevated (North) Mr Goh Tze Khng (right) brief about the Seksyen 16 MRT Station site MMC Gamuda KVMRT (PDP) Sdn Bhd General Manager Encik Mohd Amjad Faruq (left).



■ **PROGRESS REPORT** • Members of the Indonesian media listening to MRT Corp Project Manager of Underground Stations Encik Mohd Noor Sam Kasah (right) at the Pasar Rakyat site.

INDONESIA, like Malaysia, is currently embarking on its own MRT Project consisting of two lines in its capital city, Jakarta. The lines are the South-North Line from Lebak Bulus to Kampung Bandan, which runs for a distance of about 23km, and the East-West Corridor which has a length of 87km.

The Klang Valley MRT Project, which is further ahead in terms of progress, has not surprisingly attracted a lot of interest from PT Mass Rapid Transit Jakarta (MRT Jakarta), the owner of the Jakarta MRT Project.

On two separate occasions, the management team of MRT Jakarta had visited Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) with an aim of observing how the Klang Valley MRT Project was progressing. They were also to see how their Malaysian counterparts were managing the project.

On 24 October 2013, a delegation of 25 people from MRT Jakarta, led by their Director of Construction Mr M. Nasyir visited MRT Corp. The delegation consisted of engineers from MRT Jakarta and the newly-appointed contractors of the MRT Jakarta Project.

They were given a technical briefing by Director of Underground Tunnels, Mr Blaise Pearce at the TTDI

Information Centre, followed by visits to the Section 16, KL Sentral and Cochrane construction sites.

Particular interest was shown in underground tunnelling, traffic management and public engagement. Like the Klang Valley MRT Project, Jakarta’s line will also have an underground stretch and is being built through heavily populated areas.

A second delegation arrived on 22 January 2014, this time comprising of MRT Jakarta’s public relations personnel and engineers. The delegation was led by MRT Jakarta’s President Director, Mr Dono Boestami.

Accompanying the delegation were representatives from 11 Indonesian media organisations including The Jakarta Post, Kompas.com, Detik.com and Trans TV.

Two briefing sessions were held, focusing on the MRT Project as a whole and on public and stakeholder relations specifically. The delegation was also brought to two construction sites – KL Sentral and Pasar Rakyat.

Mr Boestami said MRT Corp has had the experience in dealing with the public.

“We would like to know from them how this has been. It is definitely not an easy task for MRT Jakarta,” he said.



■ **LANDMARK** • The Mayor Datuk Seri Ahmad Phesal Talib (left) listening to MRT Corp Project Director Mr Marcus Karakashian (second from left) point out certain construction activities at KL Sentral Underground Station.

MAYOR LEADS DBKL VISIT TO MRT PROJECT

By Fizliana Hilda Fahrurrazi

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) hosted a site visit by a delegation from Dewan Bandaraya Kuala Lumpur (DBKL) on 4 February 2014.

The 46-strong delegation was headed by Kuala Lumpur Mayor Datuk Seri Ahmad Phesal Talib and included various heads of departments. Encik Mohd Azharuddin Mat Sah, the newly appointed Director for the Greater Kuala Lumpur/Klang Valley National Key Economic Area of the Performance Management and Delivery Unit in the Prime Minister’s Department (Pemandu), was also a member of the delegation.

The delegation was given a briefing by MRT Corp Project Director Mr Marcus Karakashian at DBKL Headquarters. Also present were MRT Corp Director of Stakeholder Relations and Land Management Encik Haris Fadzilah Hassan, and Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak.

The group was then taken to several MRT Project construction sites such as the Elevated Guideway

Package V5 at Sri Sabah Flats in Cheras, where sections of the elevated guideway have been constructed by a launch gantry.

The delegation also visited the sites for future underground stations at KL Sentral, Pasar Seni and Pasar Rakyat.

The visitors were also shown the Inai Launch Shaft where two tunnel boring machines were launched. At this location, Datuk Seri Ahmad Phesal was invited down into the Inai Upper Shaft to see the Inai 2 Tunnel Boring Machine which was excavating the tunnel towards Bukit Bintang.

Besides the engineering aspects of the project, the delegation expressed a lot of interest in the overall architectural concepts for the underground and elevated stations.

The visit concluded with lunch, where an exchange of mementos between DBKL and MRT Corp also took place.



■ **INTRODUCTION** • MRT Corp Stakeholder Relations and Land Management Director Encik Haris Fadzilah Hassan briefing MRT Jakarta President Mr Dono Boestami (seated front row, second left), MRT Jakarta Operation and Maintenance Director Mr Albert Tarra (seated, second from right) and members of the Indonesian media.



■ **INTERESTING** • The MRT Jakarta delegation on the concourse level of the KL Sentral MRT Station.



■ **VIEWING THE PROGRESS** • The delegation looking into the Pasar Seni MRT Station box.



■ **ELEVATED** • The Mayor Datuk Seri Ahmad Phesal Talib (second from right) having a discussion with MRT Corp Project Director Mr Marcus Karakashian (right) on top of the completed section of the MRT guideway near Sri Sabah Flats in Cheras. With them is DBKL Director of Urban Transport Dr Leong Siew Mun (left).

50 WORK PACKAGES AWARDED TO BUMIPUTERA CONTRACTORS

By Nik Haizan Nik Zambri

MASS Rapid Transit Corporation Sdn Bhd awarded 50 works packages to Bumiputera contractors during a balloting session on 4 December 2013. The event was held at the Lembaga Pertubuhan Peladang building in Jalan Sultan Salahuddin, Kuala Lumpur.

The total value of works awarded was about RM20 million. Among the works that were awarded are drainage, structural, road, civil, landscaping and general works.

The successful companies were picked via balloting from a pool of 471 contractors which had been shortlisted earlier. The companies were from Grades G1 to G4.

Under the grading by the Construction Industry Development Board of Malaysia (CIDB), contractors under Grade G1 are eligible for work packages up to the value of RM200,000, while those in Grade G2 are eligible for work packages between RM200,001 and RM500,000. Grade G3 contractors are eligible

for work packages between RM500,001 and RM1,000,000 while those in Grade G4 are eligible for work packages between RM1,000,001 and RM3,000,000.

This is the second balloting event organised by MRT Corp. The first session was done in January 2013

The ballots were picked by MRT Corp Chief Executive Officer Datuk Wira Azhar Abdul Hamid, MMC Gamuda KVMRT (PDP) Sdn Bhd Director Dato’ Ir Azmi Mat Nor, Encik Azhar Basiron who is the Deputy Undersecretary of the Works Ministry’s Entrepreneurship Development Division, and Puan Zawati Yusrah Zainuddin who is the Chief Assistant Director of the Contractors Services Centre (PKK).

Representatives of the MRT Project work package contractors Sunway Construction Sdn Bhd, IJM Construction Sdn Bhd and Trans Resources Corporation Sdn Bhd also picked the ballots for some of the contracts.



■ **GROUP PHOTO** • Datuk Wira Azhar Abdul Hamid taking a photo with the successful contractors at the Bumiputera balloting.



■ **WELCOME** • Datuk Wira Azhar Abdul Hamid delivering his welcome address to the participants.



■ **ATTENTIVE** • Contractors paying close attention to the balloting process.

FIRST HAND EXPERIENCE FOR THE MEDIA

By Nadia Azmi



■ **INFORMATION FLOW** • MRT Corp Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak (second from right) answers questions from the media during a walkabout at the Bukit Bintang MRT Station site. With him is MRT Corp Director of Stakeholder Relations and Land Management Encik Haris Fadzilah Hassan.



■ **DIRECT SOURCE** • MRT Corp Project Director Mr Marcus Karakashian (fourth from left) explaining the guideway construction process to members of the media during a site visit to Package V5 near the Sri Sabah Flats in Cheras.



■ **GOOD RESPONSE** • Members of the media being shown around the Bukit Bintang MRT Station worksite.



■ **REAL FEEL** • Members of the media inside the life-sized mock MRT train which is being displayed at the KLIA Ekspres Arrival Hall at KL Sentral.

THE media plays a very important role in a massive project like the Klang Valley MRT Project. It provides the channel where information related to the project can be disseminated to the public.

In view of this, Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) as owner of the Klang Valley MRT Project makes sure that the media is always kept informed on various aspects of the project.

To enable members of the media to have a first-hand look and better understanding on issues, MRT Corp constantly brings media on visits to the project worksites. Through these “walkabouts”, the media gets the opportunity to see for themselves the issues related to the MRT Project, and how the issues are being handled.

One of the most common issue raised by members of the public is traffic congestion and MRT Corp has invited journalists to a few of the traffic congestion “hotspots” where they were shown the reasons giving rise to traffic congestion – some of which are not solely caused by the MRT Project – and steps which were being taken to overcome them.

“We give the media a first-hand understanding of the situation. Rather than merely having a media conference in our office or at a hotel, such walkabouts will give the media a clear picture of the scenario at hand,” explained Director of Strategic Communications and Public Relations, En Amir Mahmood Razak.

Besides traffic congestion hotspots, walkabouts are also held at locations where long-term change to the

traffic flow is about to happen. These changes could be in the form of road closures and diversions affecting a substantial number of people, or change in the landscape of an area.

In Kajang, the media was taken to Jalan Kelab and Lorong Mendaling to enable them to understand works needed to prepare for the construction of the future Bandar Kajang MRT Station. They were also given a briefing on the demolition of the former MCA Hulu Langat building, where the safety measures taken were emphasized.

Another area which required the media’s attention was Bukit Bintang. Although MRT construction work is taking place along Jalan Bukit Bintang, the media were shown that the road diversions implemented by MRT Corp’s contractor were working well. They also learnt that the main reason for the traffic congestion in the area could have been caused by vehicles parked illegally by the side of the road.

Other locations where MRT Corp has organised walkabouts for the media are at the Maluri MRT Station worksite, Pusat Bandar Damansara Station site and at Bukit Dukung where a special crossing will be built across the Cheras-Kajang Highway, resulting in some lane closures.

MRT Corp has received encouraging response from the media for these walkabouts and as construction work picks up pace, there will be more of these walkabouts to come.

MRT CORP CHINESE NEW YEAR OPEN HOUSE 2014

By Fizliyana Hilda Fahrurrazi



■ (From left) MRT Corp Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak, Managing Director of Sunway Construction Sdn Bhd Mr Foh Kwai Kwan, MRT Corp Director of Contract Ms Hung Siew Ping, MMC Gamuda KVMRT (T) Sdn Bhd Project Director Mr Satpal S. Bhogal, MRT Corp Director of Stakeholder Relations & Land Management En Haris Fadzilah Hassan, MRT Corp Project Director Mr Marcus Karakashian, Sunway Construction Sdn Bhd Project Director (MRT) Mr Ong Gin Lip and MMC Gamuda Director of Systems Mr Leo Mak during the prosperity toss.

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) hosted its first Chinese New Year Open House on 13 February 2014 at Damansara Heights Community Centre in Kuala Lumpur. Nearly 700 guests attended the Open House which was held from 12 noon to 4pm.

During the Open House, guests were entertained by a lion dance performance and took part in the traditional yee sang prosperity toss.

Besides the management and staff of MRT Corp, others present included representatives from the MRT Project

Delivery Partner MMC Gamuda KVMRT (PDP) Sdn Bhd, Work Package Contractors and other associates of the project.

The joy of the festivities was also shared with 15 under-privileged children and adults from Pertubuhan Penganut Bodhiksetra Vihara in Cheras. MRT Corp Acting Chief Executive Officer Encik Haris Fadzilah Hassan presented a RM2,000 donation to the home and distributed ang pows to the individuals of the home.



■ MRT Corp Acting CEO Encik Haris Fadzilah Hassan (second from left) distributing ang pows to the individuals of Pertubuhan Penganut Bodhiksetra Vihara.



■ The management of MRT Corp with underprivileged children and adults of Pertubuhan Penganut Bodhiksetra Vihara.

MERDEKA STATION OPEN DAY

By Wallace Soh Chun Hwei



■ **INFORMATION** • Participants listening to a briefing by Encik Yusni Shahadan, Construction Manager of MMC Gamuda KVMRT (T) Sdn Bhd.



■ **GIVING DETAILS** • Encik Yusni Shahadan, Construction Manager of MMC Gamuda KVMRT (T) Sdn Bhd giving information about the construction work taking place at the Merdeka Station site.

A GROUP of stakeholders got the chance to have a close-up view of the construction work for the future Merdeka Station during an Open Day at the worksite on 24 January 2014.

Organised by the contractor for the underground works of the MRT Sungai Buloh–Kajang Line MMC-Gamuda KVMRT (T) Sdn Bhd, the Open Day was in line with the principle set by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) that stakeholders along the alignment should be regularly engaged and provided with information on the project.

Various stakeholders from along Jalan Hang Jebat where the Merdeka MRT Station is located attended the Open Day. Among those present were representatives from schools around the area and from the YWCA.

Due to the proximity, MRT Project construction works have inevitably caused some level of inconveniences to these stakeholders. As such, MRT Corp and MMC Gamuda decided that these stakeholders should be kept informed of what was ongoing in and around the construction site.



■ **INTERESTING** • MRT Corp and MMC Gamuda engineers explaining to visitors about the construction activities at the Merdeka Station worksite.



■ **BUSY LOCATION** • Aerial view of the Merdeka Station site.

The stakeholders were shown a presentation on the project progress and construction activities taking place at the site by MMC Gamuda’s Construction Manager for the site Encik Yusni Shahadan.

During the session, MRT Corp and MMC-Gamuda KVMRT (T) Sdn Bhd also pledged to uphold strict safety and security measures to ensure the safety of the school children.

After the presentation, the stakeholders mingled with the staff of MRT Corp and MMC Gamuda. They were also shown around the site and managed to see the Merdeka Station box, which had been excavated to a depth of about 30m.

The event was seen as a success as MRT Corp and MMC Gamuda managed to provide information and also a platform for communications between them and the stakeholders.

The Merdeka Station is one of seven underground stations of the MRT Sungai Buloh-Kajang Line. It is located near Stadium Negara.



DID YOU KNOW ...

UNDERGROUND train travel is more than 150 years old. The first underground urban railway opened in January 1863, between Paddington and Farringdon in London.

The “Tube” was a success from opening day when 38,000 passengers rode the train on that historic day. And construction of underground railway systems began in cities around the world.



THE MRT TUNNEL AND DEPTH OF OWNERSHIP

By Khazrul Hislan Kamarudin



PIONEERS IN CO-EXISTENCE • Aerial view of the MRT construction in the Jalan Inai area where, despite the use of surface area, the land remains in private ownership. The surface will be restored to its original condition and returned to the owner after construction work is completed.

THE MRT Project has brought about several firsts in Malaysia. One of them is the adoption of the principle of co-existence in land ownership. This first part of a series on land issues related to the MRT Project explains the implementation and benefits of the principle.

AN infrastructure project which is as massive as the Klang Valley MRT Project will certainly give rise to land issues. These issues arise when the Government needs to acquire private land for the development of the infrastructure.

The usual practice is for the Government to compulsorily acquire the land under the Land Acquisition Act 1960. The land owner will be compensated the market value of the property being acquired.

However, the process of compulsory acquisition has become more difficult especially in urban areas, and moves to acquire land for the MRT Sungai Buloh-Kajang Line's underground alignment had been met with strong resistance.

The main argument used by those opposing the acquisition was that the acquisition would be in bad faith as the MRT only required underground land and not the private property on the surface of the earth. Several of the land owners filed judicial reviews against the acquisition process.

This situation encouraged Mass Rapid Transit Corporation Sdn Bhd (MRT Corp), as project owner of the MRT Sungai Buloh-Kajang Line, and various Government agencies to think outside the box to find ways to overcome this challenge.

After numerous discussions, the Government decided that under certain circumstances, privately owned land could co-exist with the MRT Project in terms of land use.

This applied not only for tunneling works which do not encroach the surface property but also when the surface area had to be used, such as when the land is needed for excavation of a launch shaft that will be later backfilled.

For the MRT Project, co-existence was achieved by using the provision in the National Land Code 1965 to limit the depth of ownership by way of the "Surrender and Re-alienate" (Section 204D).

Under this provision, the ownership of land below a certain depth is surrendered to the state authority. The new title document following re-alienation will state the depth of ownership by way of an express condition. In the case of properties affected by the MRT, limiting the depth of ownership only applies to the corridor of the MRT tunnel and not the whole piece of land.

The entire process – to settle the land, technical and other issues – is governed by an agreement between MRT Corp and the landowner, whereby the obligations of both parties before, during and after the construction of the MRT tunnel, is clearly spelled out.

Limiting the depth of ownership of land is widely practised in developed countries where multiple layers of ownership of land have enabled land usage to be optimised, especially in urban areas.

In the case of the MRT Project, co-existence has not only allowed landowners to avoid compulsory acquisition, it has also unlocked value in the land in question by allowing development above the MRT tunnel to take place. This is of course subject to SPAD's stringent technical requirements to ensure integrity of the MRT tunnel beneath and the safety of the train operations.

The value appreciation of their land and its development potential are certainly not lost on their owners. This upside potential as well as personal reasons are usually the drivers for land owners to opt for co-existence.

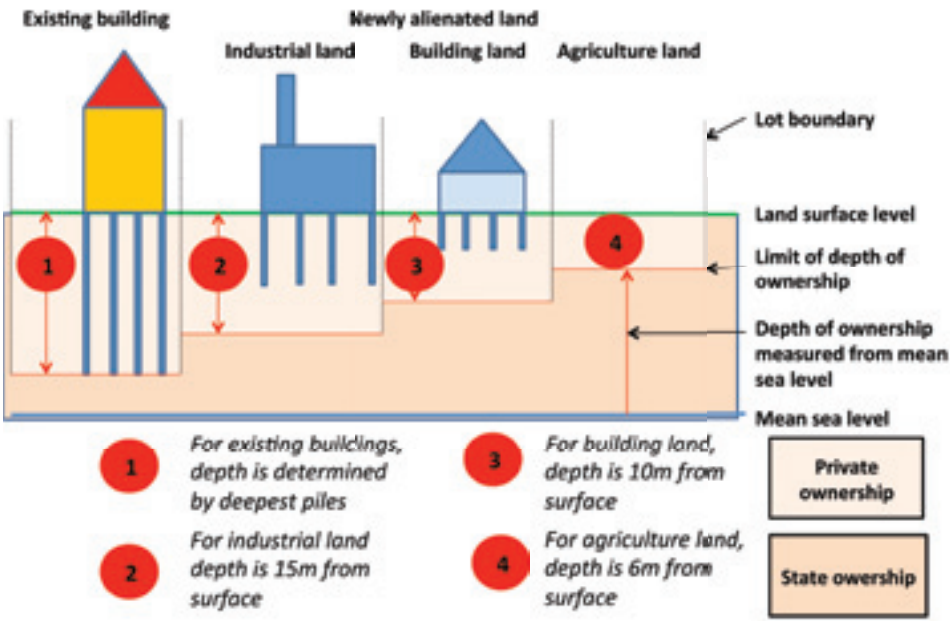
For the Government, this arrangement now allows for more efficient use of the MRT tunnel's "First Reserve" – the tract of land lying directly above the MRT tunnel – which would otherwise have been sterilised.

The benefits of this win-win arrangement are obvious as most owners of properties affected by the construction of the MRT tunnel have opted for co-existence. This has led to properties in Jalan Cochrane, Jalan Inai, and Jalan Sultan in Kuala Lumpur becoming the first few to have a limitation on depth of enjoyment in Malaysia.



UNDISTURBED • The MRT tunnel will be constructed beneath this row of shophouses. The owners retain ownership of these properties after surrendering their enjoyment of the land beyond a stipulated depth to the Government.

DETERMINING THE DEPTH OF OWNERSHIP



HOW DEEP IS YOUR OWNERSHIP OF YOUR LAND

NOW that we can see how the limitation of the depth of ownership of one's land can be used to enable the MRT tunnel to coexist with private land, the one remaining question is how is that depth determined?

The first point of reference is the National Land Code 1965. Under the National Land Code (Underground Land) (Minimum Depth) Regulations 2006, the depth of ownership is limited by the class of land whereby the depths for agricultural buildings and industrial land are 6m, 10m and 15m from the land surface respectively. Ownership of the land beyond these limits remains with the state.

However, these limitations of depth only apply to fresh alienation of the land. For existing properties, the limitation of depth can only be effected by using S.204D (Surrender and Realienate).

For properties with existing or proposed structures, the law ensures that the depth of ownership shall not be less than what is necessary for the purpose for which the land is meant. In practice, this has resulted in the depth of ownership being

determined "technically" by setting the limit to be equivalent to the depth of the deepest pile for the structure.

Besides the issue of determining the depth of ownership, the question of how this depth is measured and endorsed in the Document Title also has to be addressed.

As land surface levels can be easily changed either by humans or by natural forces, it is necessary for the depth of ownership to be measured from a fixed reference point. For this purpose, the mean sea level is used as the fixed reference point.

To determine the limit of depth, the surface level of the land is first measured against the mean sea level. The depth of ownership – established either by applying the Regulation or by determining the depth of the deepest pile – is then subtracted from the surface level.

The resulting figure, which is the depth measured against the mean sea level, will then be endorsed in the Document Title as the limit of depth of ownership.



We welcome your enquiries and suggestions
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Mon - Fri : 10:00am - 6:00pm
Saturday: 10:00am - 2:00pm

*Operational from June 2014

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